

Materials Chart No. 2

Material	Code Letter	Material Specifications
Brass	B	Alloy 360, 353 ASTM B16
Aluminum	A	¹ QQ-A-225/3 (2011-T3) QQ-A-225/6 (2024-T4) QQ-A-225/8 (6061-T6) QQ-A-200/9 (6063-T5)
Stainless Steel	SS	ASTM A582
Steel	S	ASTM A108-81, C12L14
Nylon	N	² LP-410
Teflon	T	² Mil-P-14078 Mil-P-19468
Phenolic	PH	³ Mil-P-79 Type PBE XXX (Paper Base)
Phenolic	PH-F	³ Mil-P-79 Type FBE Grade CP-940 or 4 below Fabric Base
Delrin	D	LP-392
Fibre	F	Mil-F-1148A (Grade CH)
Poly Vinyl Chloride	PVC	ASTM D-1784

1. Depending upon application
2. Smallest Thread size recommended is 4-40
3. Mil-P-15035C

Thread Code Chart No. 3

Thread code is the 4 digit number assigned to the part number to designate the thread size of a part. All threads are Class 2 (A and B) (commercial)*.

AMATOM		AMATOM		AMATOM	
Thread Size	Thread Code	Thread Size	Thread Code	Thread Size	Thread Code
0-80	0080	5-44	0544	1/4-32	2532
1-64	0164	6-32	0632	5/16-18	3118
1-72	0172	6-40	0640	5/16-24	3124
2-56	0256	8-32	0832	3/8-16	3716
2-64	0264	8-36	0836	3/8-24	3724
3-48	0348	10-24	1024	3/8-32	3732
3-56	0356	10-32	1032	7/16-14	4314
4-40	0440	12-24	1224	7/16-20	4320
4-48	0448	1/4-20	2520	1/2-13	5013
5-40	0540	1/4-28	2528	1/2-20	5020

*Note: For special threads, contact Amatom Sales Office for Number.

Self Locking Hardware (No lockwashers required)

Amatom threaded hardware is available with HELI-COIL® inserts. (HELI-COIL® inserts not available in Teflon and Delrin parts.)

To specify parts requiring a HELI-COIL® locking insert - add the letters "HL" to the thread code, i.e. 80 XX - B - 0440HL

Unless otherwise specified HELI-COIL® inserts will be 1 1/2 x diam. of the thread.

(Prices available on application only.)

® Reg. U.S. Pat. Off

Length of Thread

Brass and Aluminum Parts

0-80 thread is tapped thru up to 3/8 in. length
2-56 thread is tapped thru up to 5/8 in. length
4-40 and larger threads are tapped thru up to 1 in. length

Stainless Steel, Nylon, Phenolic

0-80 thread is tapped thru up to 1/4 in. length
2-56 thread is tapped thru up to 3/8 in. length
4-40 thread is tapped thru up to 1/2 in. length
6-32 and larger threads are tapped thru up to 1 in. length

Standoffs with longer lengths than shown above will be tapped both ends to thread depths as indicated in Chart 3A.

NOTE: Standoffs and spacers from 1 1/16 thru 2" long may be manufactured from tubing or solid material at our discretion. If your requirement calls for solid material please specify TBE (tap both ends) when ordering.

Depth of Thread

Chart No. 3A

Recommended Blind Hole Thread Length in Standoffs

(Drilled and Tapped both ends)

Per Handbook H-28 (Part 1)

Screwthread Standards (Federal)

Thread Size	Screw Engagement	Thread Size	Screw Engagement
0-80	3/16	12-24	1/2
2-56	3/16	1/4-20	9/16
3-48	1/4	1/4-28	1/2
4-40	1/4	5/16-18	9/16
6-32	3/8	3/8-16	9/16
8-32	7/16	3/8-32	3/8
10-24	1/2	7/16-20	9/16
10-32	1/2		

Exceptions are noted on catalog pages where applicable.

Percentage of Thread

Chart 3B

Screw Thread Size	% of Thread Allowable	
	Roll, or Cold Form Tap	Cut Tap
2	55	56
4	55	57
6	55	66
8	55	58
10	55	59
12	55	63
1/4	55	67

Note: Parts will be made by both methods and are interchangeable, unless customer specifically requests otherwise.

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Clearance Hole Code Chart No. 4

Clearance Code is the size of hole in a spacer, needed to clear the major diameter and not have a sloppy fit.

Thread Size	Clearance Hole Range	Clearance Hole Code	Thread Size	Clearance Hole Range	Clearance Hole Code
0-80	.062-.072	.063	10-24	.192-.202	.194
1-64	.075-.085	.076	10-32	.192-.202	.194
1-72	.075-.085	.076	12-24	.218-.228	.219
2-56	.088-.098	.091	1/4-20	.252-.262	.257
2-64	.088-.098	.091	1/4-28	.252-.262	.257
3-48	.101-.111	.104	5/16-18	.3145-.3245	.316
3-56	.101-.111	.104	5/16-24	.3145-.3245	.316
4-40	.114-.124	.115	3/8-16	.377-.387	.381
4-48	.114-.124	.115	3/8-24	.377-.387	.381
5-40	.127-.137	.129	3/8-32	.377-.387	.381
5-44	.127-.137	.129	7/16-14	.4395-.4495	7/16
6-32	.140-.150	.140	7/16-20	.4395-.4495	7/16
6-40	.140-.150	.140	1/2-13	.502-.512	1/2
8-32	.166-.176	.171	1/2-20	.502-.512	1/2
8-36	.166-.176	.171			

Note:

1. Size of Clearance Hole computed as follows:
Minimum I.D.=Thread Major Diameter + .002
Maximum I.D.=Thread Major Diameter +.012
2. For special clearance sizes not listed, designate the inside diameter required by .xxx of the decimal equivalent of size required.

Shank Length Code Chart No. 1

Code	Length of Shank	Panel Thickness	Code	Length of Shank	Panel Thickness
A	.075	1/32	D	.165	1/8
B	.105	1/16	E	.230	3/16
C	.135	3/32	F	.290	1/4

Properties

Property	Vulcanized Fibre	Nylon 101	Teflon	Phenolic		Delrin Acetal
				XXXP	LE	
Tensile Strength psi	6,000-12,000	11,200-16,500	2,700-3,100	13,500	10,000-14,000	10,000
Compressive Strength psi	20,000-30,000	4,000-11,000	700-1,200	36,000	37,000	18,000
Heat Resistance (continuous °F)	221	250	550	250-275	225-250	250
Dielectric Constant (60 cycles)	4-7	10	2.1			3.7
Dielectric Strength 1/8 thickness (v/mil)	150	300-400	400	325	225	500
Arc Resistance (Sec)	80	140	200	10	10	129
Water Absorption 24 hrs (%)	15-25	1.5	.00	.5	1.8	.12
Rockwell Hardness	R Scale 80	107-119	R-58	M110	M113	R120
Flammability (in/min) .125 in.		Self-Ext.	Non-Flam.			1.1
Specific Gravity	1.0-1.5	1.13-1.14	2.13	1.35	1.33	1.42

Information listed above was obtained from charts submitted by various manufacturers. We believe this information to be accurate, but since test methods vary, their validity cannot be verified. This chart is compiled for information purposes only.

Tolerances - Functionability

Tolerances in manufacture of standoffs and spacers

Diameter:	Length:
±.006	1. Up to 4" long all are kept to ±.005
except where	2. 4" to 6" long ±.008
otherwise noted	3. Over 6": long ±.010
	4. Nylon Parts ±.015

Amatom reserves the right to make adjustments in dimensions and specifications at any time without notice. Customer's inspection should be determined primarily on functionability.

NAS 1830 SWAGE STANDOFFS

NAS Part Number Structure

N A S 1 8 3 0 BT 13 A 0 3

Material & Finish Code Shape/Size Thread Shank Size Length

Amatom Part Number Structure

9532 - A - B - 0440 - 14

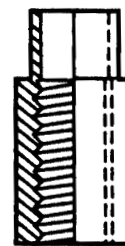
Base No. Shank Size Material Code Thread Finish Code

Please Note:

NAS and AMATOM shank codes are identical.
Insert shank code in place of brackets in the following tables.

NAS Material & Finish Codes	Description	AMATOM Codes	
		Material	Finish
A	Aluminum, Anodic Coated	A	1B
AC	Aluminum, Gold Iridite	A	17
B	Brass, Cadmium-Plate	B	999
BT	Brass, Tin Plate	B	14
C	Stainless Steel, Passivated	SS	7
H	Nylon, no finish	N	00

0256 Thread 5/32 Round	Base No. AMATOM	0256 Thread 3/16 Round	Base No. AMATOM	0440 Thread 1/4 Round	0632 Thread 1/4 Round	Base No. AMATOM
11-[]-02	9505	12-[]-02	9518	13-[]-02	14-[]-02	9531
11-[]-03	9506	12-[]-03	9519	13-[]-03	14-[]-03	9532
11-[]-04	9507	12-[]-04	9520	13-[]-04	14-[]-04	9533
11-[]-05	9508	12-[]-05	9521	13-[]-05	14-[]-05	9534
11-[]-06	9509	12-[]-06	9522	13-[]-06	14-[]-06	9535
11-[]-07	9510	12-[]-07	9523	13-[]-07	14-[]-07	9536
11-[]-08	9511	12-[]-08	9524	13-[]-08	14-[]-08	9537
↑		↑		13-[]-09	14-[]-09	9538
Insert Shank Code		Insert Shank Code		13-[]-10	14-[]-10	9539
				13-[]-12	14-[]-12	9541
				13-[]-14	14-[]-14	9543
				13-[]-16	14-[]-16	9545
				13-[]-18	14-[]-18	9546
				13-[]-21	14-[]-21	9546-20
				13-[]-22	14-[]-22	9548
				13-[]-23	14-[]-23	9548-28
				13-[]-24	14-[]-24	9549
Examples NAS1830A11B06 = 9509-B-A-0256-1B NAS1830C13C10 = 9539-C-SS-0440-7						



0256 Thread 5/32 Hex	Base No. AMATOM	0256 Thread 3/16 Hex	Base No. AMATOM	0440 Thread 1/4 Hex	0632 Thread 1/4 Hex	Base No. AMATOM
01-[]-02	9598	02-[]-02	9611	03-[]-02	04-[]-02	9624
01-[]-03	9599	02-[]-03	9612	03-[]-03	04-[]-03	9625
01-[]-04	9600	02-[]-04	9613	03-[]-04	04-[]-04	9626
01-[]-05	9601	02-[]-05	9614	03-[]-05	04-[]-05	9627
01-[]-06	9602	02-[]-06	9615	03-[]-06	04-[]-06	9628
01-[]-07	9603	02-[]-07	9616	03-[]-07	04-[]-07	9629
01-[]-08	9604	02-[]-08	9617	03-[]-08	04-[]-08	9630
↑		↑		03-[]-09	04-[]-09	9631
Insert Shank Code		Insert Shank Code		03-[]-10	04-[]-10	9632
				03-[]-12	04-[]-12	9634
				03-[]-14	04-[]-14	9636
				03-[]-16	04-[]-16	9638
				03-[]-18	04-[]-18	9639
				03-[]-21	04-[]-21	9639-20
				03-[]-22	04-[]-22	9641
				03-[]-23	04-[]-23	9641-28
				03-[]-24	04-[]-24	9642
Examples NAS1830AC03A06 = 9628-A-A-0440-17 NAS1830B01B02 = 9598-B-B-0256-999						